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December 22, 2006 / 55(SUP02);14-16

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Behavioral and Social Sciences and Public Health at CDC

Deborah Holtzman, PhD,¹ M. Neumann, PhD,² E. Sumartojo, PhD,³ A. Lansky, PhD⁴

¹Office of Scientific Regulatory Services, Office of the Chief Science Officer, Office of the Director; ²Division of HIV/AIDS Prevention---Intervention, Research, and Support, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (proposed); ³Office of the Director, National Center on Birth Defects and Developmental Disabilities; ⁴Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (proposed)

Corresponding author: Deborah Holtzman, PhD, Office of Scientific Regulatory Services, Office of the Chief Science Officer, CDC, MS D-50, Atlanta, GA 30333. Telephone: 404-639-7262; Fax: 404-639-7341; E-mail: dxh4@cdc.gov.

Introduction

Although the history of CDC spans 60 years, only during the last 2 decades of the 20th century did the agency come to recognize and better understand the importance of the behavioral and social sciences to its overall mission. This recognition was a consequence of several events, notably the growing public awareness of the many conditions and diseases linked to unhealthy behavior and the creation of three new organizational units at CDC---the National Center for Chronic Disease Prevention and Health Promotion in 1988, the National Center for Injury Prevention and Control in 1992, and the National Center for HIV, STD, and TB Prevention in 1993---that focused on conditions, diseases, and injuries with clear behavioral risks. Accordingly, the relatively small number of CDC behavioral and social scientists were initially concentrated in these three centers. In 1995, to raise awareness of behavioral and social sciences at CDC and to integrate these fields into CDC-conducted and -supported research and practice activities, the agency's behavioral and social scientists established the Behavioral and Social Sciences Working Group (BSSWG). The application of the behavioral and social science disciplines to public health attests to the success of the working group. Today, BSSWG continues as a formal organization sponsored by the Office of the Chief Science Officer within the CDC Office of the Director.

Contributions of Behavioral and Social Science to CDC

The behavioral and social sciences incorporate a number of disciplines, and each brings a variety of theoretical perspectives and methodologic approaches to its particular areas of study. At CDC, these sciences are represented primarily by psychology, sociology, anthropology, and economics. Armed with their unique frameworks, scientists from these fields can use qualitative, quantitative, or multiple methods to explore the effects of behavioral, social, and cultural factors on public health problems. As with all research at CDC, behavioral and social science research ranges from basic to applied; however, these disciplines contribute most to applied public health through intervention research, program evaluation, and policy analysis.

Development and testing of new interventions that are behaviorally and socially based or that include behavioral and social components have been active areas of study at CDC, especially with regard to the acquired immunodeficiency syndrome (AIDS) epidemic. During the 1980s and 1990s, numerous interventions were developed and tested to reduce the risk for human immunodeficiency virus (HIV) infection (1). For example, using experimental or quasi-experimental designs, many studies examined the impact of psychosocial factors on sex- or drug-related outcomes among clinic or drug-treatment populations. In addition, social and behavioral scientists have evaluated many of these interventions---those developed not only for reduction of HIV infection (2) but also for other areas of public health significance, such as violence prevention (3) and occupational safety and health (4).

Another contribution to CDC and public health is the monitoring of key behavioral outcomes through surveillance systems to assess policy impact. For example, in one study, using data from the U.S. Behavioral Risk Factor Surveillance System and a quasi-experimental approach, the prevalence of drinking and driving behavior was examined before and after enactment of a new state policy. The authors found a statistically significant decrease in drinking and driving after laws were passed and enforced to both lower the blood alcohol level considered to be *prima facie* evidence of intoxication and to suspend the drivers' licenses of persons found guilty of driving while intoxicated (5).

The contributions of behavioral and social scientists to the CDC mission span the breadth and depth of public health research and study. Within CDC, behavioral and social scientists have conducted research in the areas of AIDS/HIV infection (1,6), chronic diseases (7,8), intentional and unintentional injury (3,9), occupational safety and health (4,10), health education and promotion (11), reproductive health (12), birth defects and developmental disabilities (13), and environmental health (14,15). For example, behavioral and social scientists applied social cognitive theory to data from the Family Adolescent Risk Behavior and Communications Study to examine the influence of multiple social factors on sexual behavior among adolescents (12). They used a similar theoretical framework to explore the impact of parental communication on adolescent risk behavior for HIV infection (16). Others at CDC have emphasized the need for behavioral and social scientists to systematically examine economic, social, political, and organizational factors to learn about behaviors important to disease prevention (17). Recently, behavioral and social scientists have directed their attention toward environmental health. They are uniquely suited to uncover the social forces affecting the environment that could create a health disadvantage to persons who inhabit that environment (14).

Furthermore, behavioral and social scientists are well trained to study the effects of not only attitudes and behaviors on the public's health but also social factors---such as class, family structure, and community integration---that affect it. The influence of race and ethnicity on health and illness has been important to investigations by behavioral and social scientists (18) and critical to the CDC goals of identifying, understanding, and reducing health disparities.

The application of innovative approaches, such as meta-analyses and translational research, to public health problems also has been an important contribution by behavioral and social scientists (2,3). These

contributions are especially apparent in the *CDC Guide to Community Preventive Services (19)*, where systematic reviews of evidence for the effectiveness of prevention programs and interventions have been conducted for key programmatic areas throughout the agency.

The Behavioral and Social Sciences Working Group

The successful integration of behavioral and social science into CDC's work can be attributed in large part to BSSWG and the commitment of its members. The group has achieved its goals through major initiatives that include an annual speaker series and support for BSSWG member attendance at relevant professional conferences, which helps identify new scientists who may be interested in public health and employment at CDC. New in 2006 was an annual award for outstanding behavioral or social science research. These achievements have resulted in substantial increases in the number of such scientists and expansion of their roles at CDC.

From only a handful of behavioral and social scientists in a few parts of the agency just 15 years ago, CDC today employs approximately 300 behavioral and social scientists who work with epidemiologists and biomedical researchers throughout the agency and collaborate with other federal agencies and with nongovernment partners on a myriad of public health concerns. Moreover, behavioral and social scientists have increasingly competed successfully for positions in traditional public health training programs, such as the Epidemic Intelligence Service, and participated actively in outbreak investigations and emergency responses. The behavioral and social sciences are expected to continue to contribute to public health at CDC in areas not already reached by these disciplines and through greater participation in areas of traditional public health, such as infectious diseases (20).

As CDC has grown over the past 60 years, its workforce has become increasingly multidisciplinary. The influence of these workforce changes reaches far into CDC's extensive network of public health partners. Behavioral and social science perspectives and approaches to public health extend to collaborative activities with state and local partners, other federal partners, and other public and private organizations, both domestically and globally. Public health research and practice have been strengthened by the disciplines represented among the behavioral and social sciences, disciplines that have come to play a vital role at CDC as it carries out its mission to make people safer and healthier.

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Date last reviewed: 12/18/2006

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